

BalaSivarajah_ACCA4021

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Submission date: 24-May-2026 08:29PM (UTC+0100)

Submission ID: 284520181

File name: 67284_Balapitathees_Sivarajah_BalaSivarajah_ACCA4021_734043_601561684.docx (2.51M)

Word count: 1654

Character count: 9355



Introduction to Computer Systems

Computing Foundation Streams (ACCA4021)

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Introduction:

This assignment examines the installation and configuration of a Windows operating system within a virtualised environment using Oracle VirtualBox. The task requires to deploy the Windows OS, customise the virtual machine settings, and demonstrate that essential software drivers are correctly installed and functioning. In this section, a Windows virtual machine was created in Oracle VirtualBox, and the operating system was successfully installed. Following the installation, the virtual hard disk was partitioned into two separate drives: the C: drive, designated for the operating system, and the E: drive, intended for storing user files and data. Screenshots were captured throughout the process to document each stage of the setup.

1 Part 1 - Installation and Partitioning of Windows OS in Oracle VirtualBox

1.1 Creating the Virtual Machine

The setup process began by launching **Oracle VirtualBox**, where I selected *New* to create a new virtual machine. This opened the configuration wizard, which guides the user through defining the essential parameters for the VM. Throughout part 1, screenshots were captured to document each configuration step. I assigned the virtual machine the name **Windows11**, and VirtualBox automatically selected the appropriate Virtual Machine folder and operating system type based on the name. The OS Type was set to Microsoft Windows, and the OS Version was correctly identified as Windows 11 (64-bit). These selections ensure that VirtualBox applies

the correct default settings and compatibility options for the Windows installation.

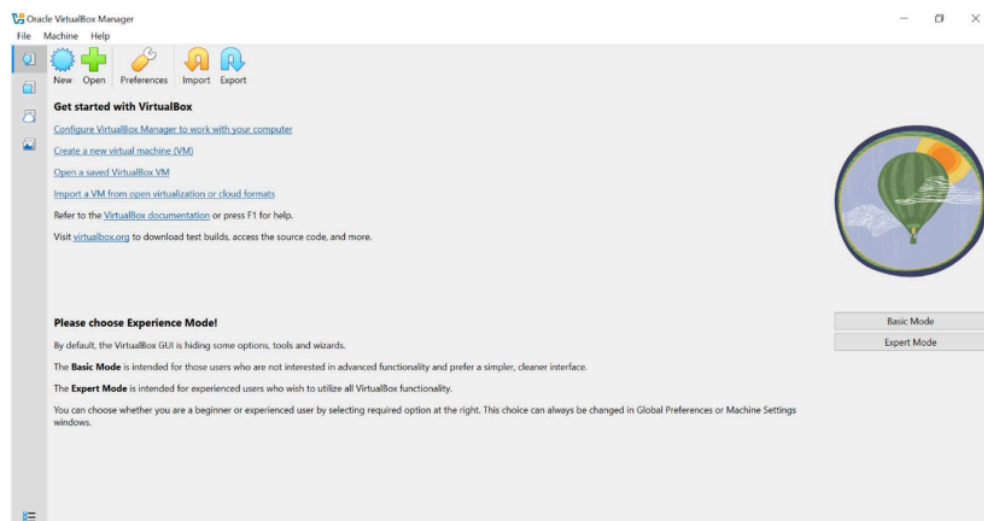


Figure 1-1: Launching Oracle VirtualBox

1.2 Setting the Virtual Machine Hardware

Subsequently, I configured the hardware resources for the Virtual Machine. I allocated memory (RAM), CPU cores, and storage space according to the recommended settings provided by VirtualBox. Using the recommended values ensures that the virtual machine runs smoothly without putting excessive load on the host system. This balance is essential for maintaining performance during installation and when running applications inside the Virtual Machine.

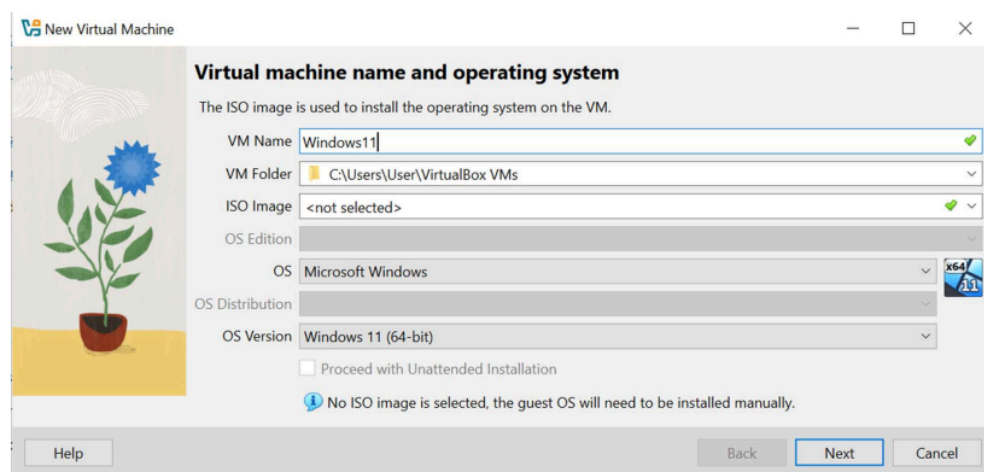


Figure 1-2 : Virtual machine name and operating system

1.3 Checking the Virtual Machine settings

After creating the virtual machine, I reviewed the configuration details in the VirtualBox manager to ensure that all hardware parameters were correctly applied. The following summary panel displayed the VM name, allocated memory, number of processors, storage size, and other settings. Checking these values is an important step before installing the operating system, as it confirms that the VM has been configured according to the specifications. The displayed information matched the settings chosen during the setup process, confirming that the virtual machine was created successfully.

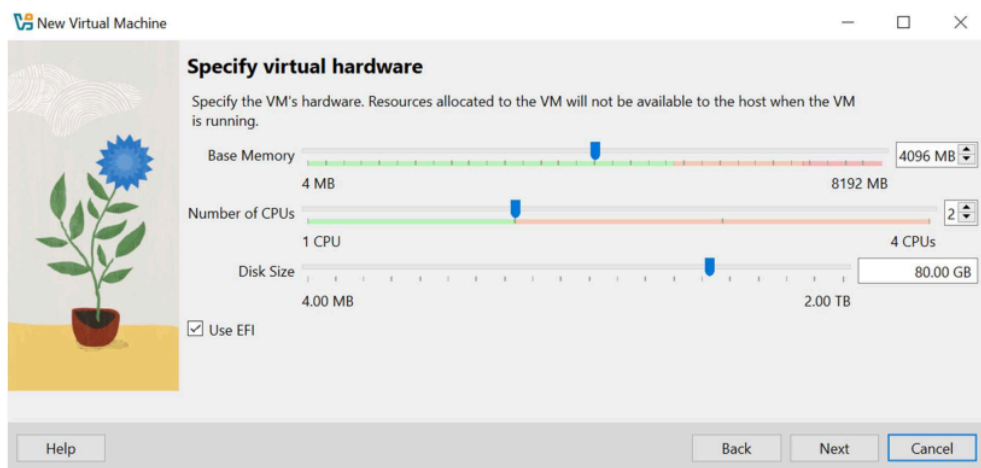


Figure 1-3: Checking the VM settings

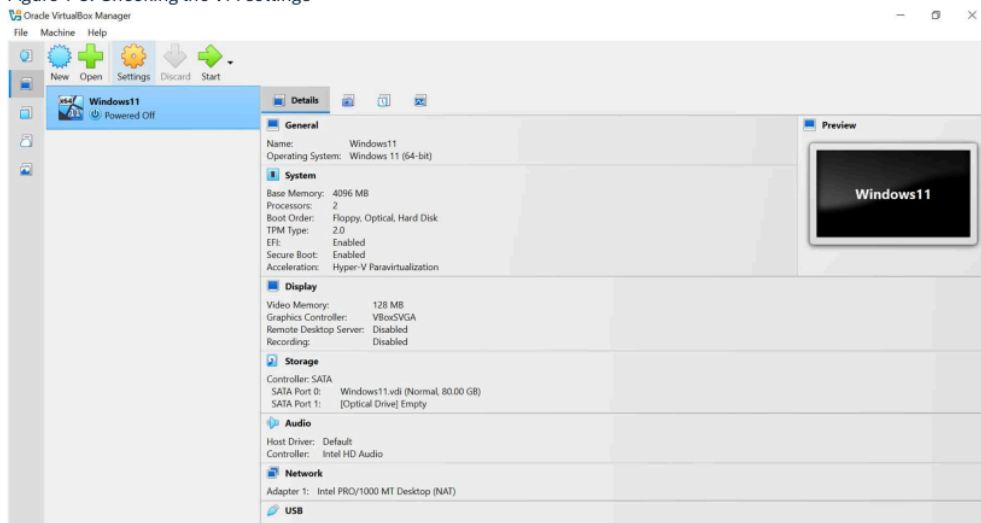


Figure 1-4: Windows11 Virtual box Manager

1.4 Error encountered when mounting the ISO

When attempting to start the virtual machine for the first time, an error message appeared stating that no bootable device was found. This occurred because the VM did not yet have an operating system or a correctly mounted ISO image. Without a bootable source, VirtualBox cannot begin the installation process. To resolve this issue, I returned to the VM settings and checked the Storage configuration. The ISO file had not been attached correctly, which caused the boot failure. After identifying the issue, I re-mounted the Windows ISO file to the virtual optical drive. Once the ISO was correctly attached, the VM was able to boot from it and proceed with the Windows installation.

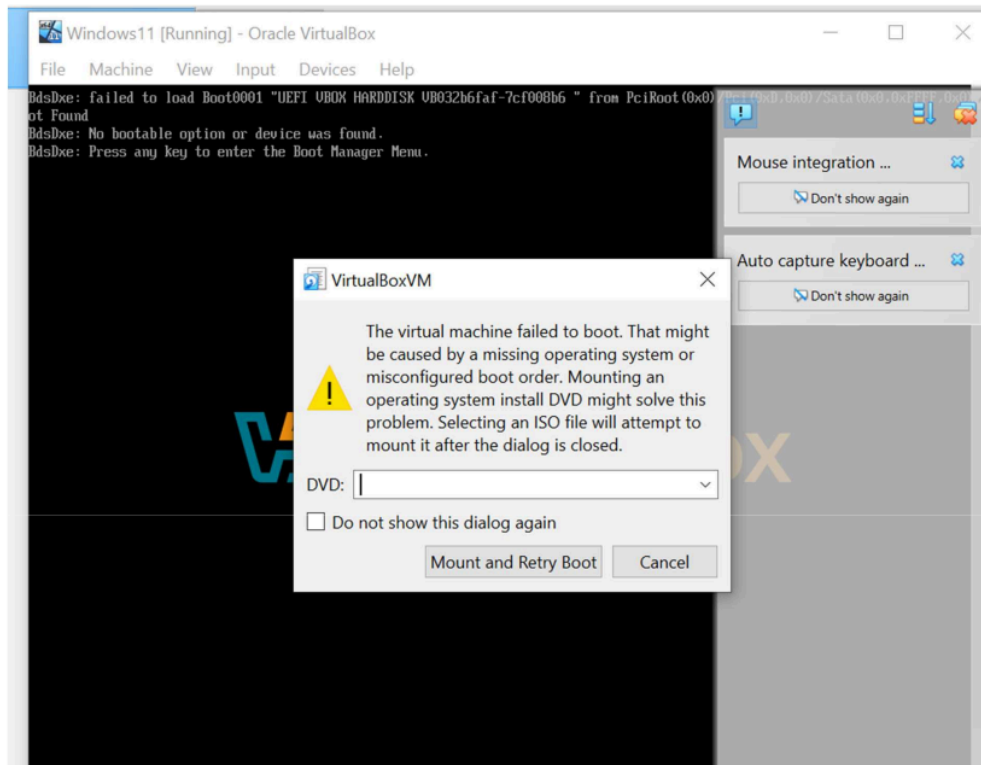


Figure 1-5 : Error message on VM

1.5 Windows11 ISO installation

To install the operating system, I first downloaded the official Windows 11 ISO from the Microsoft website. I selected the 64-bit version, as this is the standard architecture supported by VirtualBox and provides full compatibility. After downloading, I checked that the ISO file had completed successfully before attaching it to the virtual machine.

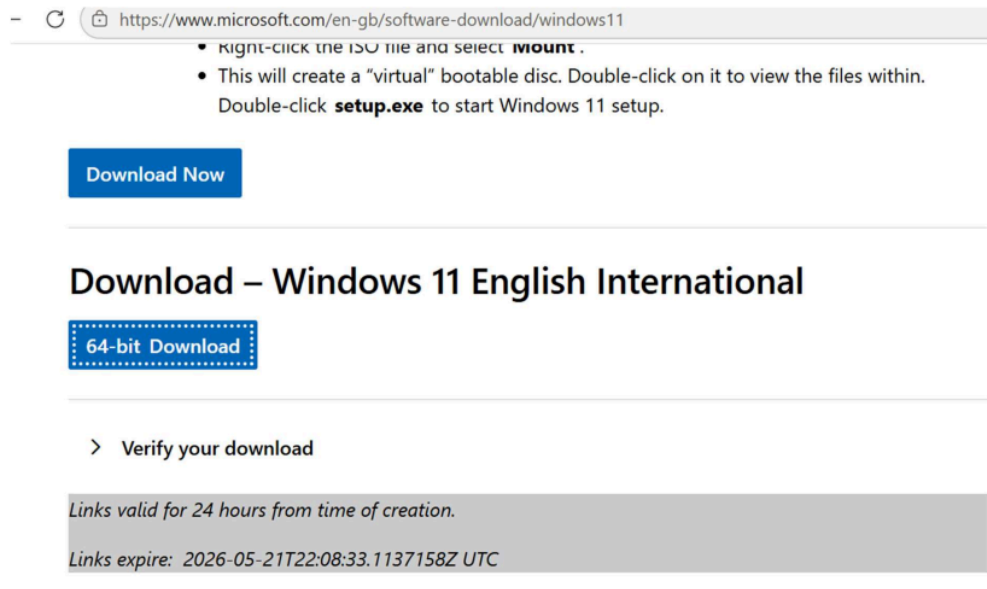


Figure 1-6 : Windows11 ISO installation

1.5.1 Installation location

During the Windows Setup process, I was prompted to choose where to install the operating system. I selected Disk 0 Unallocated Space (80 GB), which corresponds to the virtual hard disk created earlier in VirtualBox. This allowed Windows 11 to be installed on a clean, dedicated virtual drive. After confirming the selection, I clicked Next to begin the installation.

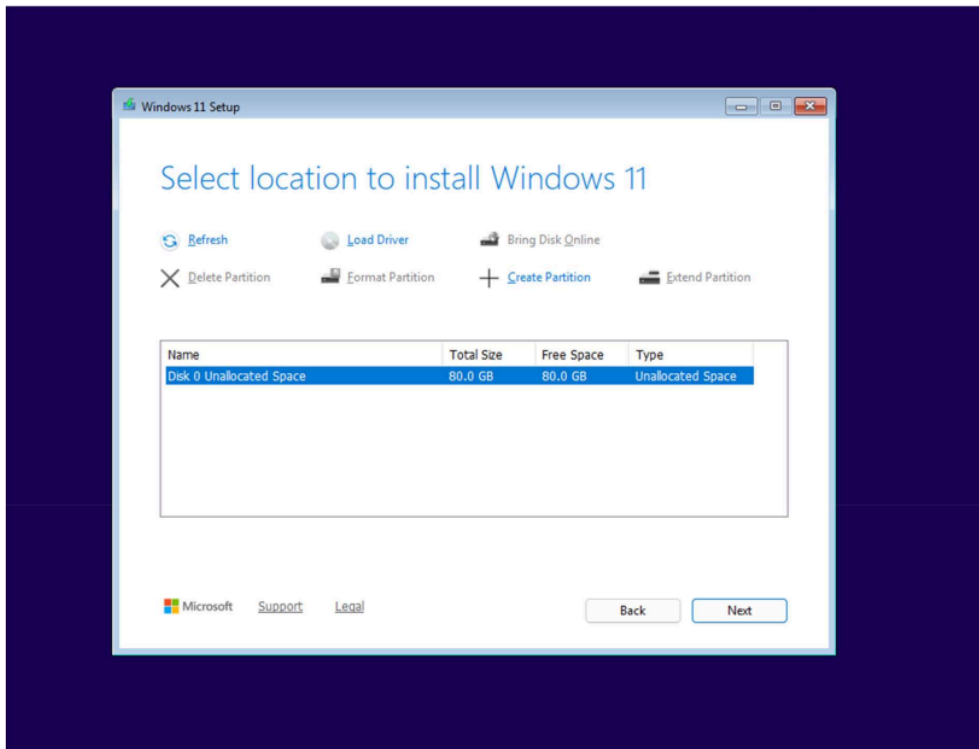


Figure 1-7 :Installation location

1.5.2 Ready to Install Windows 11

The setup wizard displayed a summary confirming that Windows 11 Home was ready to install. Since this was a fresh installation, I chose the option to keep nothing, ensuring a clean environment without previous data. Once the configuration was confirmed, I selected Install to start the installation process. Windows then copied files, installed features, and completed the necessary updates.

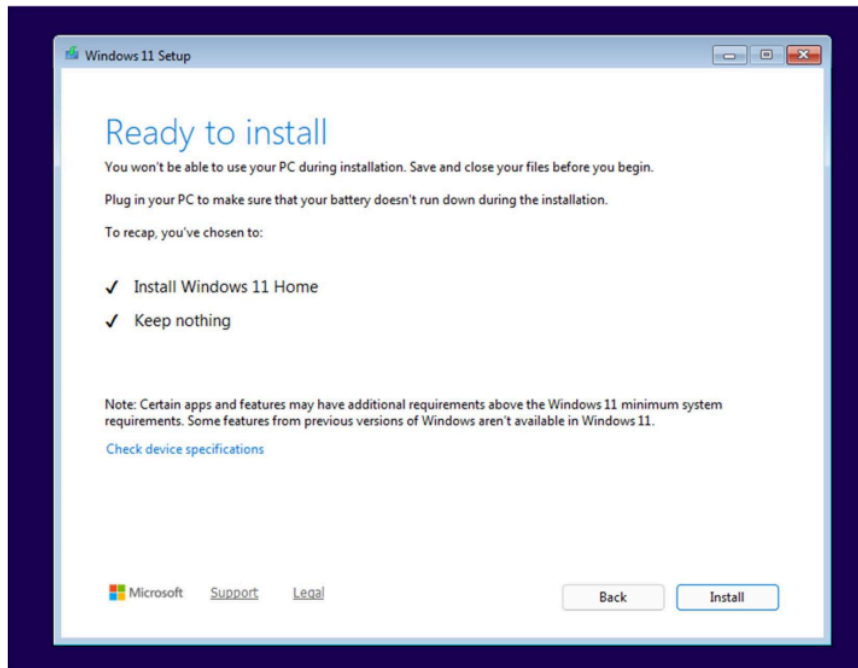


Figure 1-8 :Ready to install Windows11

1.5.3 Windows 11 Desktop After Installation

After the installation finished, the virtual machine restarted automatically and booted into the Windows 11 desktop. The Start Menu and default applications loaded correctly, confirming that the operating system had been installed successfully and was functioning as expected within Oracle VirtualBox. This demonstrated that the ISO was mounted properly and that the VM hardware configuration supported the Windows 11 environment.

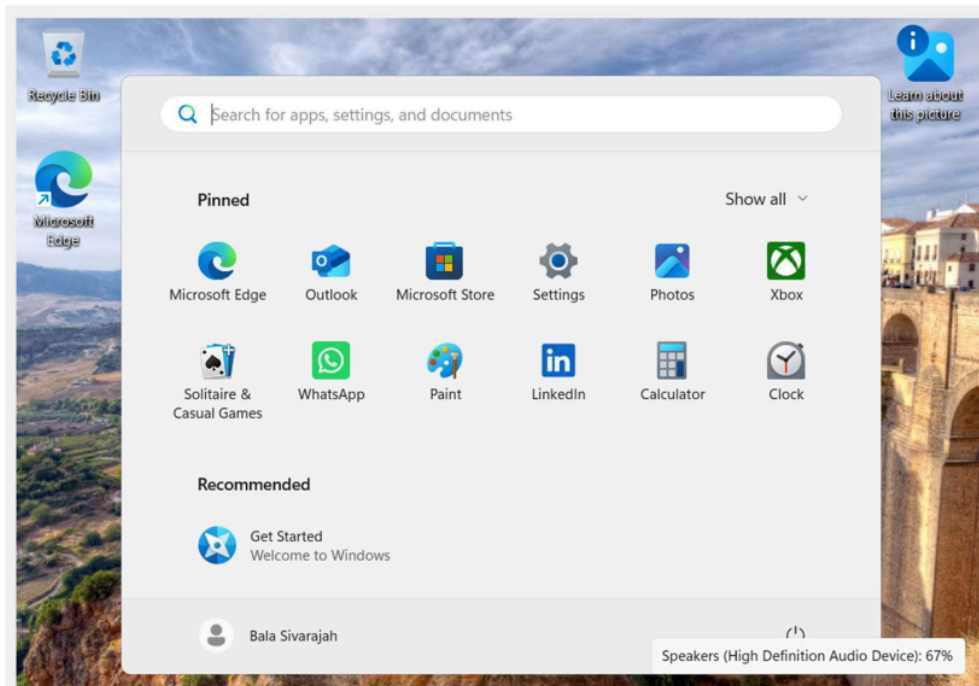


Figure 1-9 :Windows11 Desktop after installation

1.5.4 Creating the New Partition

After Windows 11 finished installing, I opened Disk Management to configure the storage layout of the virtual machine. Using this tool, I created a new partition from the main virtual hard drive. I reduced the primary C: drive to free up unallocated space, and then created a new simple volume, which was formatted and assigned the drive letter E. The following screenshot shows the final configuration, with both the C: system drive and the newly created E: data partition visible under this PC. This confirms that the partitioning process was completed successfully.

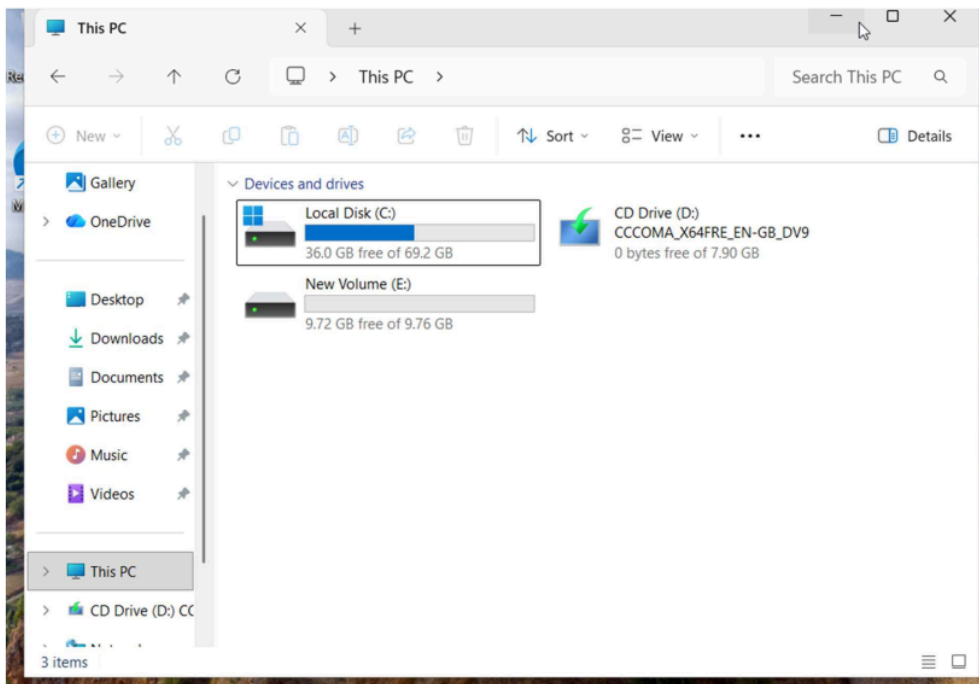


Figure 1-10 : Final configuration with both C and E drives.

2 Part 2 – Driver configuration and OpenOffice installation

2.1 Device Manager

After creating the C: and E: partitions, I opened Device Manager to confirm that all virtual hardware drivers were correctly installed. The list of components, including audio, display, network, and storage controllers, appeared without warnings, indicating proper configuration. This confirms that the virtual machine hardware is working properly before installing any software.

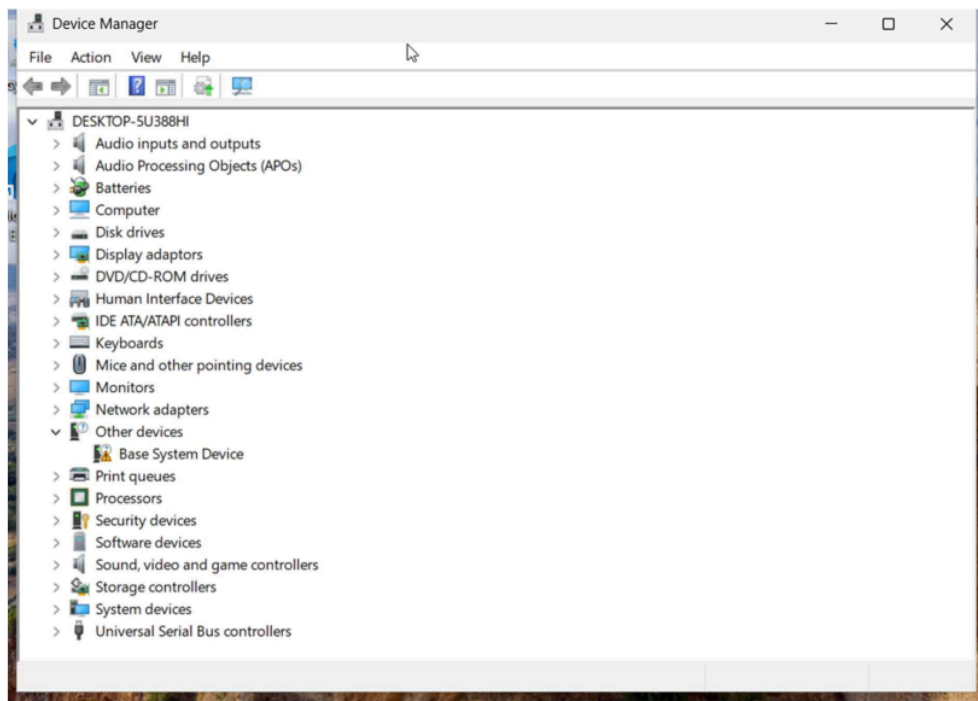


Figure 2-1: Device Manager

2.2 Checking the Network Adapter

After opening Device Manager, I checked the network adapter to confirm it was functioning correctly. The properties window displayed “This device is working properly,” showing that the virtual machine recognised the network hardware and that the connection was active.

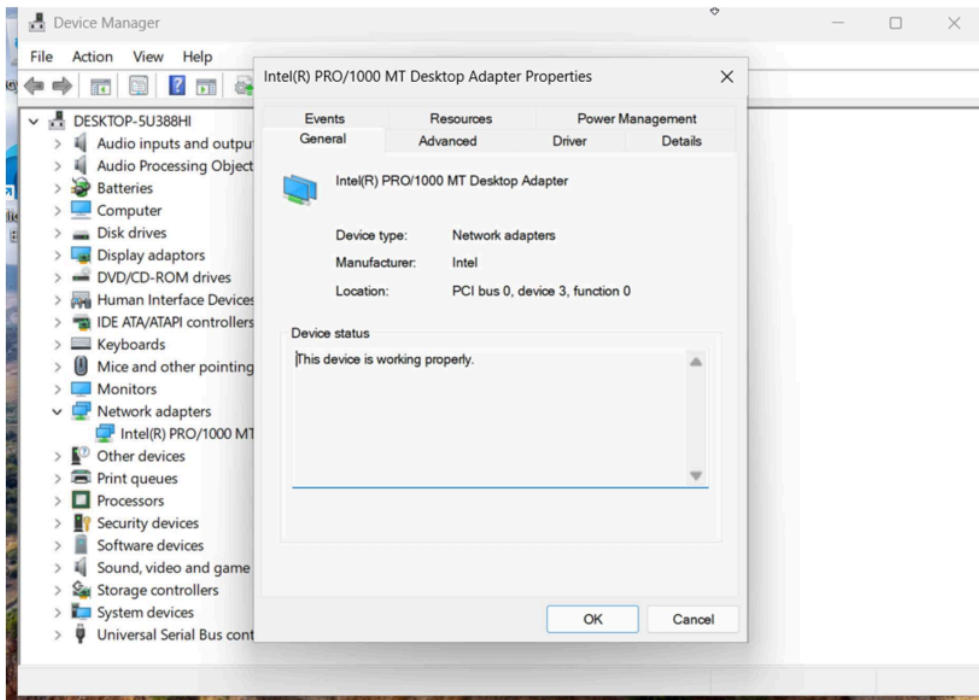


Figure 2-2 : Checking the network adapter

2.3 Checking the Audio Device

To check that the audio system was functioning correctly, I opened Device Manager and inspected the High Definition Audio Device. The properties window displayed the status message “This device is working properly,” confirming that the audio driver had been installed successfully. This step ensured that all essential hardware components were operating correctly before proceeding with the OpenOffice installation.

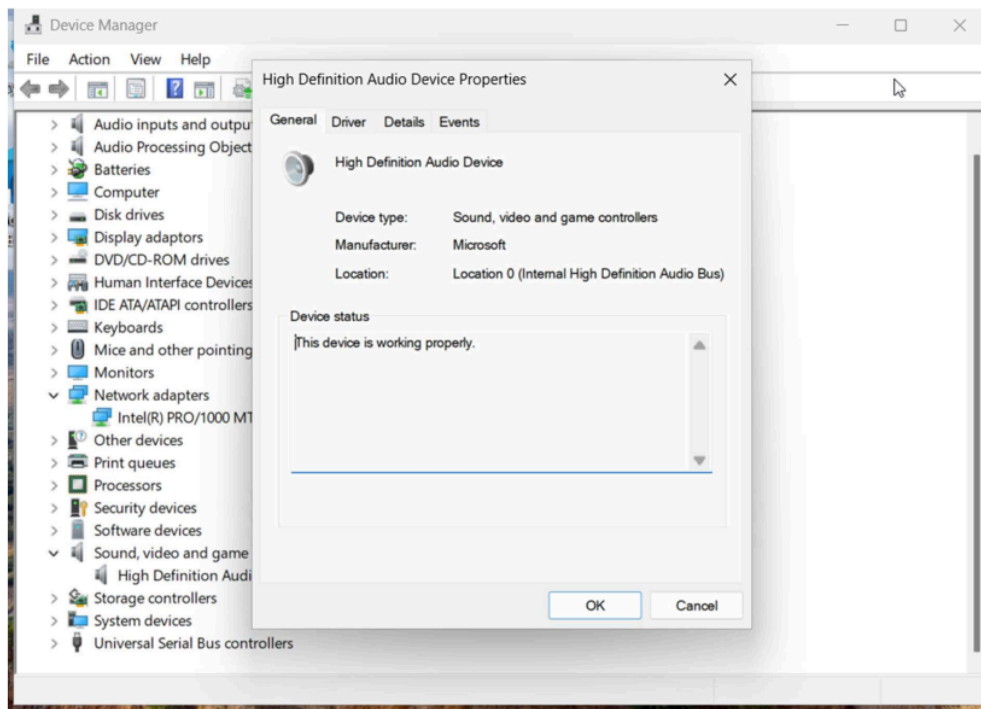


Figure 2-3 : Checking the audio device

2.4 Checking System Information

To confirm the virtual machine was configured correctly, I opened Settings → System → About to review the system specifications. The page displayed the allocated processor, 4 GB of RAM, and the 80 GB virtual hard disk.

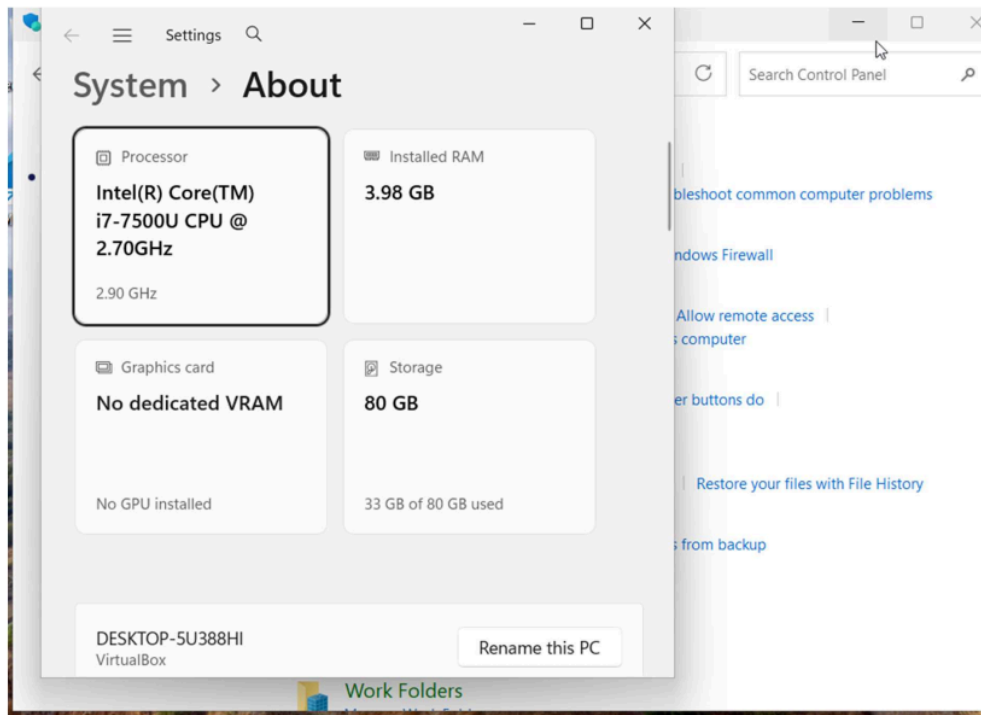


Figure 2-4 : Checking System Information

2.5 Downloading and Installing OpenOffice

To install Apache OpenOffice, I accessed the official website and downloaded the installer through the SourceForge link. Once the download completed, the setup file appeared in my browser's downloads list. I opened the installer and followed the on-screen instructions, selecting the default configuration options. After the installation finished, OpenOffice launched successfully within the virtual machine, confirming that the application was fully operational.

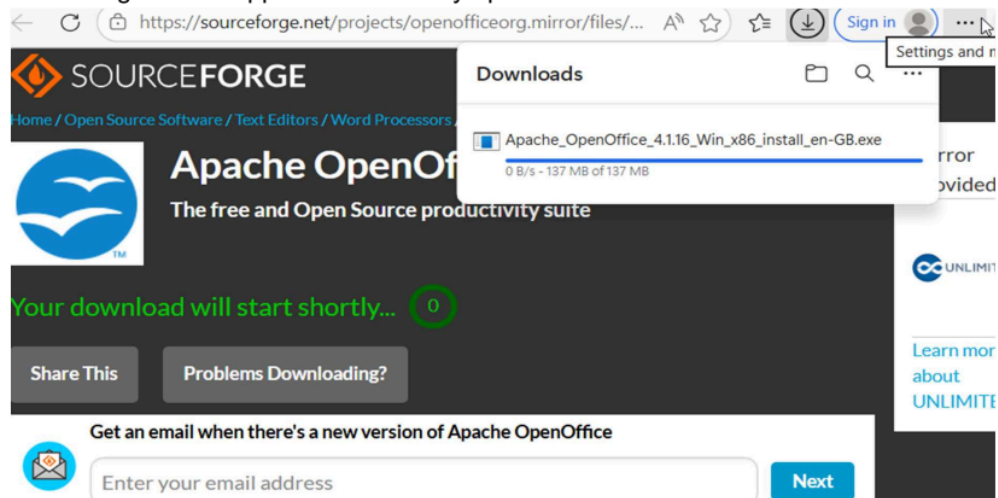


Figure 2-5: Official website Apache OpenOffice download

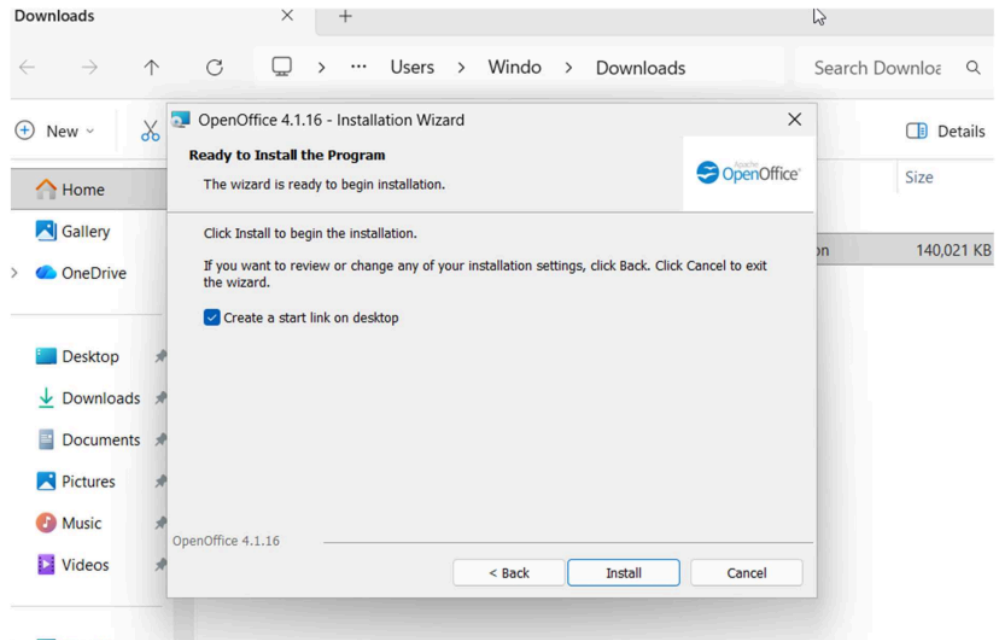


Figure 2-6 :Installation OpenOffice

2.6 Saving a File on the E: Drive

To confirm OpenOffice was working, I created a test document in Writer and saved it to the E: drive. This verified that the software installed correctly and that the new partition functioned properly for storing files within the virtual machine.

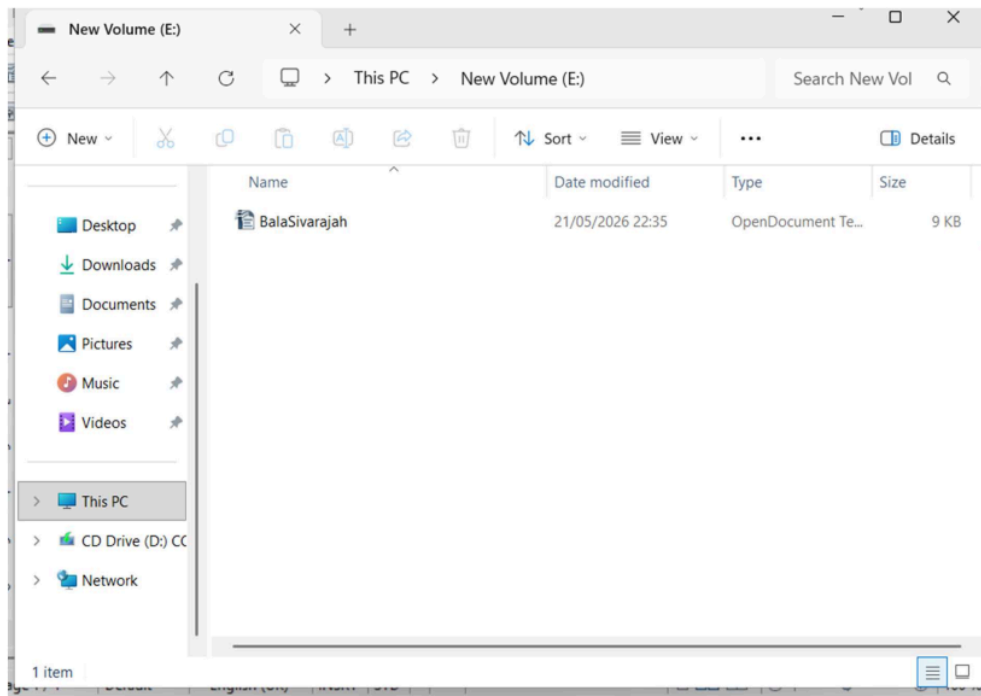


Figure 2-7 : File saved on the E: drive

Conclusion

This project successfully met all requirements outlined in the task description of the assignment. I installed and customised a Windows 11 operating system in Oracle VirtualBox, then created and formatted two partitions (C: and E:) as instructed. I checked key hardware drivers such as the network and sound interfaces, using Device Manager, demonstrating that the virtual machine's components were correctly configured. Following the brief's second requirement, I installed an office software suite (OpenOffice), saved a test document to the E: drive, and confirmed that both the application and the new partition operated correctly. Overall, the virtual machine setup, driver configuration, and software installation fully satisfied the deliverables specified in the task description.

FINAL GRADE

47 / 100

GENERAL COMMENTS

Engagement with Literature Skills

No reference list exists anywhere in the document and there are no in-text citations. The 5-source IEEE minimum is entirely unmet.

1/15

Knowledge and Understanding Skills

Setup values (4096 MB, 2 CPUs, 80 GB) are visible only in screenshots - not stated or justified in the text, which defaults to "recommended settings." Partitioning purpose and driver function are not explained; driver sections only note "working properly."

11/25

Practical Application Skills

All major deliverables confirmed via screenshots: VM created with 4096 MB, 2 CPUs, 80 GB; OS installed with boot error documented and resolved; C: and E: partitions confirmed in This PC. Intel PRO/1000 MT and High Definition Audio Device both shown working in Device Manager; OpenOffice 4.1.16 installed and a data file saved to E:. Missing: program file installation path not described; driver parameters limited to device status only.

30/50

Transferable Skills for Life and Professional Practice

First person is pervasive throughout every paragraph ("I configured," "I allocated," "I downloaded," etc.). Title page present but no date; OS, VM, ISO, CPU not expanded on first use.

5/10

What Could Have Been Done Better

There are no references at all - no in-text citations and no reference list. The assignment requires a minimum of 5 IEEE-format sources. Citations should appear in the body where external sources inform the work (e.g. VirtualBox documentation, Microsoft's download guidance, partitioning guidance), and the reference list should appear at the end in numbered IEEE format: [1] Author, "Title," Source, Year. [Online]. Available: URL. [Accessed: DD Mon. YYYY].

Academic reports are written in the third person or passive voice because the focus is the work, not the person who did it. When a report says "I installed VirtualBox", the reader's attention shifts to the author rather than the installation. Writing "VirtualBox was installed on the host machine" keeps focus on what was done and why - which is what the assessor needs to evaluate. This is a convention used across technical reports, research papers, and professional documentation.

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